REMARKS:

1) With regard to item 10) of the Office Action Summary (Form PTOL-326), the Examiner is respectfully requested to indicate whether the three sheets of drawings filed on August 22, 2003 have been accepted.

2) Reference "A" cited on Form PTO-892 has an error in the number. The Examiner is respectfully requested to issue a Corrected Form PTO-892 in which reference "A" shows the correct U.S. Patent number 5,106,**668** (Turner et al.) rather than U.S. 5,106,**688** (Bradfute et al.). It is actually the Turner et al. patent that is applied in a rejection.

3) The Examiner's attention is directed to the Information Disclosure Statement that was filed by mail on October 3, 2005. Please consider the IDS, and return an initialed, signed and dated acknowledgment copy of the IDS Form PTO-1449.

4) The indication of allowable subject matter in claims 3, 4, 5 and 6 as well as 15 is sincerely appreciated. However, after review of the prior art it is respectfully submitted that the limitation of the main claim to the features of claim 3 is not called for by the prior art for the following reasons.

5) The claims 1 to 15 have been revised particularly in the independent claims 1 and 10 to more clearly distinguish the invention in a patentable manner from the prior art as is

explained in more detail below. Claim 16 has been added to have a method claim commensurate to the amended apparatus claim 5.

6) It is the main object of the present invention to provide a lightweight laminated structural component that has different weight and strength characteristics in different localized areas in accordance with load requirements that must be met by these localized areas, please see page 3 of the present specification. A honeycomb structure does not have different weight characteristics in different localized areas because the honeycomb ply with its uniformly distributed honeycomb cells is coextensive with any of the other plies.

7) The invention achieves this main objective by the combination of the following features according to amended claim 1 and amended claim 10.

8) The independent claims 1 and 10 define the lattice as comprising strip shaped flat sheet metal lands. Such strip shaped flat sheet metal lands are not the equivalent of honeycomb cells because in a lattice the lands, and optionally also the struts, that form the lattice are flat elements that extend in a plane parallel to the plane of the sheet metal ply that is uninterrupted throughout its area.

9) Contrary to the definition of a lattice as formed by crossing or interlacing strips or bars, the walls of the individual honeycomb cells extend perpendicularly to the plane of the uninterrupted

ply. The above amendments in the claims emphasize this important difference between the lattice ply and a conventional honeycomb ply.

10) The difference is important because the laminates that form, for example, an aircraft body skin must primarily take up compression and tension forces in the planes defined by all of the individual plies. Contrary thereto, a flooring panel as disclosed in U. S. Patent 5,667,866 (Reese, Jr.) must primarily take up bending loads as is evidenced by the statement in the abstract of the Reese, Jr. patent that the top laminate is thicker than the bottom laminate. As a result, only the top laminate supplies increased compressive resistance while only the bottom layer has an enhanced ability to withstand tensile forces. That describes a bending load. A beam or plate exposed to bending forces perpendicularly to its center or neutral line is subjected to compression above the center line and to tension below the center line. Thus, honeycomb panels particularly constructed for flooring, for example in an aircraft, are not suitable for the present purposes namely for use in an aircraft body skin because compression and tension forces occur in all plies of the skin of an aircraft body.

11) The rejection of claims 1, 2 and 7 to 14 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,667,866 (Reese, Jr.) taken in the light of the disclosure of U.S. Patent 5,106,668 (Turner et al.) is respectfully traversed for the following reasons. Turner et al. was cited for the idea that an

uninterrupted sheet metal ply can be used instead of an uninterrupted composite material ply by a person of ordinary skill in the art at the time the invention was made. Using an uninterrupted sheet metal ply in the honeycomb panel of Reese, Jr. does not result in the claimed invention, because flat strips of a lattice (12) are not, and do not function as, honeycomb cells. In a lattice the flat sheet metal lands extend all in or parallel to the same plane. Contrary thereto in a honeycomb structure the walls of the individual cells extend perpendicularly to the plane defined by the respective honeycomb ply and thus perpendicularly to any other ply in the laminate. The strips in a lattice surround open fields in a two dimensional sense while the walls of the honeycomb cells enclose a volume in a three dimensional sense.

12) In view of the foregoing, the replacement of the uninterrupted composite material plies of the sandwich panel according to Reese, Jr. by sheet metal uninterrupted plies will not result in the claimed invention, much less will such a combined structure function as the claimed invention because a honeycomb ply is not a lattice ply for the above reasons and for the following reasons. Honeycomb cells do not function as a lattice because a honeycomb ply will increase the bending stiffness of a panel as explained in detail in the Reese, Jr. disclosure to withstand bending forces effective perpendicularly to the plane of the panel. Contrary thereto a lattice ply determines the compression and tension strengths against forces effective in all plies in the plane of the panel rather than perpendicularly thereto.

Moreover, a lattice ply will, depending on the surface area of the open fields between the flat lattice strips have different weight characteristics in different surface areas. Contrary thereto, a honeycomb ply will have a uniform weight distribution throughout its surface area.

13) In view of the above difference in structure and function between a lattice ply and a honeycomb ply, one skilled in the art of aircraft construction at the time the invention was made would not even contemplate using a floor panel as disclosed by Reese, Jr. and modified as disclosed by Turner et al., for making an aircraft body skin (for example) or any other structural component that is subjected to tension or compression throughout all of its plies.

14) The rejection of claim 7 as being unpatentable over Reese, Jr. is respectfully traversed because Reese, Jr. actually does not teach a lattice comprising strip shaped lands forming at least one sheet metal ply with open fields. The face end of the honeycomb cells does not function independently of the honeycomb cell. Therefore, interpreting the disclosure of Reese, Jr. in the light of the present disclosure is inappropriate. Withdrawal of the rejection of claim 7 is respectfully requested.

15) With regard to claim 9, an <u>independent</u> protection of particular aluminum alloys is not intended.

16) Favorable reconsideration and allowance of the application, including all present claims 1 to 16, are respectfully requested.

Respectfully submitted,
Herwig ASSLER et al.
Applicant

WGF:kd/4547

By _____
Wolfgang G. Fasse, Reg. No. 21187
Walter F. Fasse, Reg. No. 36132
Reg. No.: 36132
Tel. 207-862-4671
Fax. 207-862-4681
P. O. Box 726
Hampden, ME 04444-0726

CERTIFICATE OF FAX TRANSMISSION:

I hereby certify that this correspondence with all indicated enclosures is being transmitted by telefax to (571) 273-8300 on the date indicated below, and is addressed to: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450.

_____ 10/14/05
Name: Walter F. Fasse - Date: October 14, 2005